Rotation Angle Detector

FIELD OF THE INVENTION

The present invention relates to a rotation angle detector for use in detecting a rotary angle of a steering wheel on a vehicle and the like.

BACKGROUND OF THE INVENTION

With progress of higher-performance vehicles made in recent years, there have been proposed various rotation angle detectors (hereinafter called "RAD") for detecting a rotary angle of a steering wheel (hereinafter called "SWH"). An example of such RAD is disclosed, for example, in Japanese Patent Non-examined Publication No. 2002-206910.

A conventional art RAD will be described with reference to FIG. 5.

On a circumference of rotary member 1, there is formed spur gear portion 1A. Rotary member 1 has engagement portion 1B to engage a shaft of SWH (not shown) inserted into a center thereof. Insulative resin-made detecting member 2 has a substantially planar top face. Spur gear portion 2A provided on a circumference of detecting member 2 is in a meshing arrangement with spur gear portion 1A on rotary member 1. Detecting member 2 has a cylindrical columnar protrusion 2B formed at a center of its underside. Protrusion 2B has magnet 3 mounted at its end by performing such an operation as insert molding.

Circular columnar shaft portion 4, made of a metal, is fixed by insert molding or the like to a center, i.e., a rotational axis, of detecting member 2, as projected upwardly.

Axes of shaft portion 4 and magnet 3 are each arranged substantially in